

IN THE CLAIMS:

Please AMEND claims 1, 4, 5, 7, 9, 13-16, 18, 20, 22, and 23 and ADD new claims 24-43 in accordance with the following:

1. (AMENDED) An apparatus ~~for reproducing~~to reproduce an interactive content from an information storage medium, the interactive content including audio/visual (AV) data including audio data and video data, a markup document, and/or a markup resource file, the apparatus comprising:

a font controller ~~means, which determines~~to determine a pixel aspect ratio of a font according to aspect ratio information and resolution information of ~~an input~~the markup document, to performs a preprocess of enlarging or reducing a size of the font according to the determined pixel aspect ratio, and to outputs the preprocessed font data ~~adaptive~~according to a change in the aspect ratio and resolution of the screen on which the interactive content is displayed.

2. (ORIGINAL) The apparatus of claim 1, wherein the aspect ratio information is embedded in the markup document using a tag.

3. (ORIGINAL) The apparatus of claim 2, wherein the markup document contains resolution information and screen aspect ratio information indicating a 16:9 screen, a 4:3 screen, a 1:1 screen, or no-relation to the screen aspect ratio which includes a case where no aspect ratio is set for the markup document.

4. (AMENDED) The apparatus of claim 2, wherein, when the tag for the aspect ratio information of the markup document does not exist in the markup document, basic screen aspect ratio information set in the reproducing apparatus is used as screen aspect ratio information of the markup document.

5. (AMENDED) The apparatus of claim 1, wherein the font controller ~~means~~ stores matrix information indicating values ~~for enlarging~~to enlarge or ~~reducing~~ the font according to the aspect ratio information of the markup document.

6. (ORIGINAL) The apparatus of claim 5, wherein the matrix information comprises a matrix used for an aspect ratio of 4:3, a matrix used for an aspect ratio of 16:9, a matrix used

for a basic aspect ratio of 14:9, and a matrix used for an aspect ratio of 1:1.

7. (AMENDED) An apparatus ~~for reproducing~~ to reproduce an interactive content from an information storage medium, the interactive content including audio/visual (AV) data including audio data and video data, a markup document, and/or a markup resource file, the apparatus comprising:

a reader, ~~which reads~~ to read data from the information storage medium; and
a presentation engine, ~~which enlarges~~ to enlarge or reduces a font, made at a predetermined pixel aspect ratio, using aspect ratio information of the markup document read by the reader, the markup document containing the aspect ratio information and resolution information which are optimally suitable to the markup document, and to outputs the enlarged or reduced font ~~adaptive~~ according to a screen having a different aspect ratio and resolution from the aspect ratio information and the resolution information contained in the markup document with a minimum distortion.

8. (ORIGINAL) The apparatus of claim 7, wherein the aspect ratio information is embedded in the markup document using a tag.

9. (AMENDED) The apparatus of claim 8, wherein, when the tag for the aspect ratio information of the markup document does not exist in the markup document, basic screen aspect ratio information set in the reproducing apparatus is used as screen aspect ratio information of the markup document.

10. (ORIGINAL) The apparatus of claim 9, wherein the presentation engine comprises a font decoder, which stores matrix information indicating values for enlarging or reducing the font according to the aspect ratio information of the markup document.

11. (ORIGINAL) The apparatus of claim 10, wherein the matrix information comprises a matrix used for an aspect ratio of 4:3, a matrix used for an aspect ratio of 16:9, a matrix used for a basic aspect ratio of 14:9, and a matrix used for an aspect ratio of 1:1.

12. (ORIGINAL) The apparatus of claim 7, wherein the markup document contains resolution information and screen aspect ratio information indicating a 16:9 screen, a 4:3 screen, a 1:1 screen, or no-relation to the screen aspect ratio which includes a case where no aspect

ratio is set for the markup document.

13. (AMENDED) The apparatus of claim 12, wherein, when the screen aspect ratio information indicates the 4:3 screen, the font decoder enlarges the a font having a square pixel aspect ratio to have a first ratio and outputs the enlarged font to the 4:3 screen so that the enlarged font having the first ratio is reduced and displayed at almost the square pixel aspect ratio on the 4:3 screen.

14. (AMENDED) The apparatus of claim 12, wherein, when the aspect ratio information indicates the 16:9 screen, the font decoder reduces the a font, having a square pixel aspect ratio to have a second ratio and outputs the reduced font to the 16:9 screen so that the reduced font having the second ratio is enlarged and displayed at almost the square pixel aspect ratio on the 16:9 screen.

15. (AMENDED) The apparatus of claim 7, further comprising:
a decoder, ~~which decodes~~ to decode the AV data read by the reader and to outputs a video image and a sub-image; and
a blender, ~~which blends~~ to blend the AV data and a rendered markup document so that the AV data is displayed on a display window of a display apparatus defined by the markup document,
wherein the blender comprises:
_____ a video converter, ~~which converts~~ to convert a format of the video image into a pan & and scan format or a letterbox format according to a screen aspect ratio and a resolution of a the display apparatus or to outputs the video image as ~~it is~~ without a converting is ion thereof;
_____ a first mixer, ~~which mixes~~ to mix the video image from the video converter and the sub-image;
_____ a video position/image size controller, ~~which controls~~ to control a position of the mixed image from the first mixer and a size of an AV image displayed on a screen of the display apparatus according to input video layout information;
_____ a graphic image converter, ~~which converts~~ to convert a size of a graphic image of a markup image source provided from the presentation engine;
_____ a second mixer, ~~which mixes~~ to mix an output of the video position/image size controller and an output of the graphic image converter and to outputs the result of mixing to the

display apparatus so that the result of mixing can may be displayed on the screen of the display apparatus; and

_____ a controller, ~~which controls~~ to control the video converter and the graphic image converter according to the screen aspect ratio and the resolution of the display apparatus.

16. (AMENDED) A method of reproducing an interactive content from an information storage medium, the interactive content including audio/visual (AV) data including audio data and video data, a markup document, and/or a markup resource file, the method comprising:
determining a pixel aspect ratio of a font according to aspect ratio information and resolution information of an input markup document;
performing a preprocess of enlarging or reducing the font before displaying ~~it~~ the font; and
outputting the preprocessed font data ~~adapted~~ according to an aspect ratio and a resolution of a screen on which the interactive content is displayed.

17. (PREVIOUSLY PRESENTED) The method of claim 16, wherein the aspect ratio information of the markup document is embedded in the markup document using a tag.

18. (AMENDED) The method of claim 17, wherein the determining the pixel aspect ratio comprises setting basic screen aspect ratio information set in the apparatus as screen aspect ratio information of the markup document when the tag for the aspect ratio information of the markup document does not exist in the markup document.

19. (PREVIOUSLY PRESENTED) The method of claim 18, wherein the markup document contains the resolution information and the aspect ratio information indicating a 16:9 screen, a 4:3 screen, a 1:1 screen, or no-relation to the screen aspect ratio which includes a case where no aspect ratio is set for the markup document.

20. (AMENDED) The method of claim 16, wherein the enlarging or reducing the font comprises converting the font using matrix information indicating values ~~for enlarging or reducing~~ to enlarge or reduce the font according to the aspect ratio information of the markup document.

21. (PREVIOUSLY PRESENTED) The method of claim 20, wherein the matrix information comprises a matrix used for an aspect ratio of 4:3, a matrix used for an aspect ratio

of 16:9, a matrix used for a basic aspect ratio of 14:9, and a matrix used for an aspect ratio of 1:1.

22. (AMENDED) The method of claim 20, wherein, when the screen aspect ratio information indicates the 4:3 screen, the enlarging or reducing the font comprises enlarging a the font having a square pixel aspect ratio to have a first ratio, and outputting the font data comprises outputting the enlarged font to the 4:3 screen, so that the enlarged font having the first ratio is reduced and displayed at almost the square pixel aspect ratio on the 4:3 screen.

23. (AMENDED) The method of claim 20, wherein, when the aspect ratio information indicates the 16:9 screen, the enlarging or reducing the font comprises reducing a the font having a square pixel aspect ratio to have a second ratio, and outputting the font data comprises outputting the reduced font to the 16:9 screen, so that the reduced font having the second ratio is enlarged and displayed at almost the square pixel aspect ratio on the 16:9 screen.

24. (NEW) The apparatus of claim 7, further comprising a decoder to decode the AV data read by the reader and to output a video image and a sub-image.

25. (NEW) The apparatus of claim 24, further comprising a blender to blend the AV data and a rendered markup document so that the AV data is displayed on a display window of a display apparatus defined by the markup document.

26. (NEW) The apparatus of claim 25, wherein the blender comprises a video converter to convert a format of the video image into one of a pan and scan format and a letterbox format according to a screen aspect ratio and a resolution of the display apparatus or to output the video image as is without a conversion thereof.

27. (NEW) The apparatus of claim 26, further comprising a first mixer to mix the video image from the video converter and the sub-image.

28. (NEW) The apparatus of claim 27, further comprising: a video position/image size controller to control a position of the mixed image from the first mixer and a size of an AV image displayed on the screen according to input video layout information.

29. (NEW) The apparatus of claim 28, further comprising a graphic image converter to convert a size of a graphic image of a markup image source provided from the presentation engine.

30. (NEW) The apparatus of claim 29, further comprising a second mixer to mix an output of the video position/image size controller and an output of the graphic image converter and to output the result of mixing to the display apparatus so that the result of mixing is displayable on the screen of the display apparatus.

31. (NEW) The apparatus of claim 30, further comprising a controller to control the video converter and the graphic image converter according to the screen aspect ratio and the resolution of the display apparatus.

32. (NEW) A reproducing apparatus, including a reader to read audio/visual (AV) data and a markup document from a storage medium, the markup document indicating a resolution and an aspect ratio of the markup document, a buffer to buffer the AV data, a cache to cache a playback control information file to control the playback of the AV data and/or the markup document, and a decoder to decode the cached AV data and the markup document, the apparatus comprising:

- a control unit to control the reader, the buffer, the cache, and the decoder to read the AV data and the markup document from the medium;

- a presentation engine to fetch the markup document from the cache and to enlarge or reduce a font originally having a first resolution and a first aspect ratio so as to render the markup document at a second resolution and a second aspect ratio; and

- a blender to blend the AV data and the rendered markup document.

33. (NEW) The apparatus according to claim 32, wherein the font has a square pixel aspect ratio and is used in the markup document.

34. (NEW) The apparatus according to claim 32, wherein the presentation engine is an analytical engine to analyze markup languages and program languages.

35. (NEW) The apparatus according to claim 32, wherein the presentation engine includes plugins to enable users to open markup resource files of various formats.

36. (NEW) The apparatus according to claim 32, wherein the presentation engine accesses the Internet.

37. (NEW) The apparatus according to claim 32, wherein the font that is enlarged or reduced by the presentation engine is made at a square pixel aspect ratio and is enlarged or reduced using aspect ratio information of the markup document.

38. (NEW) The apparatus according to claim 32, wherein the rendered markup document is rendered at the second resolution and the second aspect ratio without distortion.

39. (NEW) The apparatus according to claim 32, wherein the markup document comprises an interactive image display file.

40. (NEW) An apparatus for use with a display apparatus to reproduce interactive content, including a video image and a sub-image, and to control a font according to an aspect ratio conversion, the apparatus comprising:

- a video converter to convert a format of the video image into a pan and scan format or a letterbox format according to a screen aspect ratio and a resolution of the display apparatus or to output the video image without a conversion thereof;

- a first mixer to mix the video image from the video converter and the sub-image;

- a video position/image size controller to control a position of the mixed image and a size of a displayed audio/visual (AV) image according to input video layout information;

- a graphic image converter to convert a size of a graphic image of a markup image source according to aspect ratio information of a markup document associated with the markup image;

- a second mixer to mix an output of the video position/image size controller and an output of the graphic image converter and to output the result of mixing.

41. (NEW) The apparatus according to claim 40, further comprising:

- a display to display the interactive content; and

- a controller to control the video converter and the graphic image converter according to the screen aspect ratio and the resolution of the display.

42. (NEW) The apparatus according to claim 40, wherein the markup document is an interactive image display file.

43. (NEW) A method of reproducing interactive content to be used with a reproducing apparatus, comprising:

- determining whether a markup document contains aspect ratio information;
- inputting the aspect ratio information as screen aspect ratio information, if the markup document contains the aspect ratio information;
- inputting basic screen aspect ratio information set in the reproducing apparatus as the screen aspect ratio information, if the markup document does not contain the aspect ratio information;
- enlarging or reducing a font of the markup document using matrix information corresponding to the inputted screen aspect ratio information;
- rasterizing font data composed of control points resulting from the enlargement or reduction of the font for display; and
- displaying the rasterized font data.